



SigmaFusion™ based on AURIX™

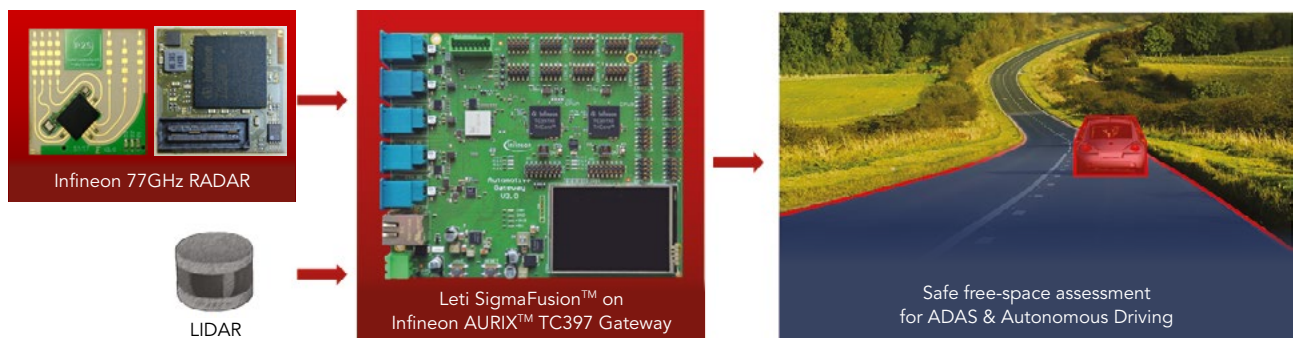
SAFE PERCEPTION WITH LOW POWER SENSOR FUSION based on INFINEON AURIX™ 2ND GENERATION AND 77GHZ RADAR

Safely powered by AURIX™

SigmaFusion™ is a free-space assessment solution based on multi-sensors fusion. The powerful combination of Leti SigmaFusion™, running with Infineon AURIX™, Radar and safety supply ensures a safe low-power automotive-grade solution.

SigmaFusion™ based on AURIX™ provides

- Safety co-pilot for up to Level 5 autonomous driving system
- ADAS functions with fail-operational perception of the vehicle environment



+ LETI SIGMAFUSION™ ENABLES:

- Free-space assessment to increase safety of Artificial Intelligence driving algorithms
- Automotive-grade multi-sensor fusion for performance and power aware ADAS
- Accurate, safe and predictable sensor fusion implementation
- Compatibility with any kind of range sensor
- Under the 3-watt barrier implementation

+ FEATURED INFINEON PRODUCTS:

77GHz Radar RXS8160

- 3 transmit – 4 receive 77GHz transceiver with integrated, configurable baseband
- Powerful programmable waveform generator w/ fast chirp modulation
- Low-Power 130nm BiCMOS technology in eWLB package

Safety Microcontroller AURIX™ TC397X

- Six TriCore™ with up to 300 MHz (4x Lockstep plus 2 non-Lockstep Cores),
- TriCore™ DSP functionality, supporting floating point and fix point with all cores
- Ethernet 1Gbit, FlexRay, CAN-FD, LIN, SPI
- 16 MByte embedded Flash memory with latest SOTA requirements

Radar Microcontroller AURIX™ TC397XA

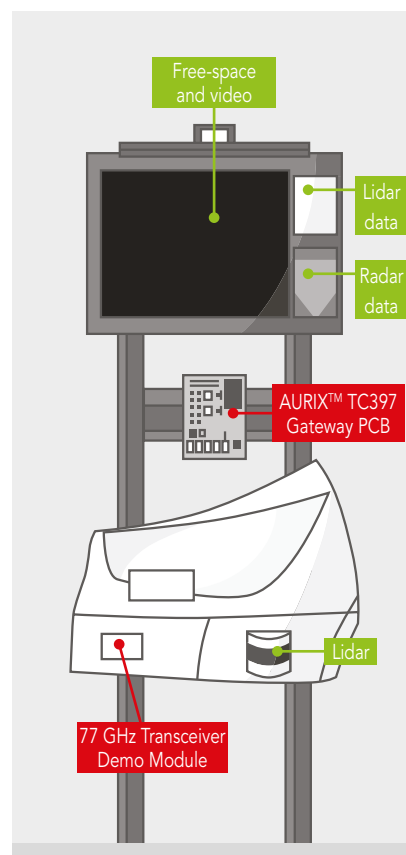
- 2x radar signal processing unit (SPU) running at 300 MHz each
- Highspeed LVDS sensor interface up to 3.2Gbps (RIF)
- 4 MB of internal radar SRAM
- ISO26262 ASIL-D capable radar processor

OPTIREG™ PMIC TLF30682

- Integrated monitoring and supervision
- Reduced number of external components for minimized PCB-area

CAN-FD TLE9251V

- Includes robust Wake-up pattern detection (WUP) fulfilling worldwide wake-up filter timing
- Is approved without external ESD protection at NAFTA OEMs



INTERESTED IN THIS TECHNOLOGY?

Contact Leti:

Marie-Sophie Masselot

marie-sophie.masselot@cea.fr

+33 438 783 830

Contact Infineon:

Thomas Schneid

thomas.schneid@infineon.com

+49 171 2963252

Leti, technology research institute

Commissariat à l'énergie atomique et aux énergies alternatives

Minattec Campus | 17 avenue des Martyrs | 38054 Grenoble Cedex 9 | France

www.leti-cea.com



@CEA_Leti



CEALeti



Leti

